

25. (Amended) A modular construction system comprising:

an inventory of panel shapes that are derived from a common format, the format being a three-dimensional grid defined by twenty-seven sub-cubes within a single larger cube, the sub-cubes having corners that form sixty-four vertices within the grid, wherein straight line radii are drawn from each of the sixty-four vertices to each of the other sixty-three vertices ^{define} form fifty-nine panel shapes, wherein the panel shapes form panels having a plurality of sides and a plurality of corners;

panels having one of the panel shapes, have made according to
a means for constructing a structure using the panels from the inventory of panel shapes, wherein a plurality of panels are connected at a plurality of angles with respect to each other about a given axis centered between and parallel to the panel sides, and about given vertices where the axes between the panels sides being joined intersect;

wherein the plurality of panels include structural, load bearing struts attached along the panel sides, forming a framework around the perimeter of the panels to carry the weight of the panels and allow for connection to other panels; and

wherein the struts of the panels being joined are spaced-apart and offset from the axis centered between the panel sides and are joined to a common tubular element by means of webs and brackets that are attached to the struts for joining at least two panels together.

Please cancel claims 26-29.

30. (Amended) A modular construction system comprising:

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an inventory of panel shapes derived from a three-dimensional grid defined by twenty-seven sub-cubes within a single larger cube, the panel shapes forming a plurality of panels having a plurality of sides and a plurality of corners;

a means for connecting a plurality of panels together at any angle through 360 degrees about any axis centered between the panel sides and at any dihedral angle with respect to each other for building three-dimensional structures;

wherein the plurality of panels include struts attached along the sides of each of the panels, forming a framework around the perimeter of the panels to carry the weight of the panels and allow for connection to other panels;

wherein the means for connecting the plurality of panels together includes at least one joinery assembly; and

wherein the joinery assembly includes at least one web attached to the struts of at least two panels, at least one collar having an opening extending therethrough, at least one tab extension extending from one side of the collar that attaches to the web with fasteners, and a tubular element that extends through the opening in the collar for connecting a plurality of panels together.

31. (Amended) A modular construction system comprising:

an inventory of panel shapes derived from a three-dimensional grid defined by twenty-seven sub-cubes within a single larger cube, the panel shapes forming a plurality of panels having a plurality of sides and a plurality of corners;

a means for connecting a plurality of panels together at any angle through 360 degrees about any axis centered between the panel sides and at any dihedral angle with respect to each other for building three-dimensional structures;

wherein the plurality of panels include struts attached along the sides of each of the panels, forming a framework around the perimeter of the panels to carry the weight of the panels

and allow for connection to other panels, wherein the struts of the panels being connected are spaced-apart and offset from the axis centered between the panel sides;

wherein the means for connecting the plurality of panels together includes at least one joinery assembly;

wherein the joinery assembly includes at least one web attached to the struts of at least two panels, at least one collar having an opening extending therethrough, at least one tab extension extending from one side of the collar that attaches to the web with fasteners, and a tubular element that extends through the opening in the collar for connecting a plurality of panels together; and

wherein the joinery assembly further includes at least one joint closure for covering the spaced-apart opening and joinery assembly between the struts of connected panels.

32. (Amended) A modular construction system comprising:

an inventory of panel shapes derived from a three-dimensional grid defined by twenty-seven sub-cubes within a single larger cube, the panel shapes forming a plurality of panels having a plurality of sides and a plurality of corners;

a means for connecting a plurality of panels together at any angle through 360 degrees about any axis centered between the panel sides and at any dihedral angle with respect to each other for building three-dimensional structures;

wherein the plurality of panels include struts attached along the sides of each of the panels, forming a framework around the perimeter of the panels to carry the weight of the panels and allow for connection to other panels, wherein the struts of the panels being connected are spaced-apart and offset from the axis centered between the panel sides;

wherein the means for connecting the plurality of panels together includes at least one joinery assembly; and

wherein the joinery assembly includes at least one bracket attached to the struts of at least two panels, the bracket having an opening extending therethrough for accepting a common tubular element therein for connecting at least two panels together.

33. (Amended) A modular construction system comprising:

an inventory of panel shapes derived from a three-dimensional grid defined by twenty-seven sub-cubes within a single larger cube, the panel shapes forming a plurality of panels having a plurality of sides and a plurality of corners;

a means for connecting a plurality of panels together at any angle through 360 degrees about any axis centered between the panel sides and at any dihedral angle with respect to each other for building three-dimensional structures;

wherein the plurality of panels include struts attached along the sides of each of the panels, forming a framework around the perimeter of the panels to carry the weight of the panels and allow for connection to other panels, wherein the struts of the panels being connected are spaced-apart and offset from the axis centered between the panel sides;

wherein the means for connecting the plurality of panels together includes at least one joinery assembly;

wherein the joinery assembly includes at least one bracket attached to the struts of at least two panels, the bracket having an opening extending therethrough for accepting a common tubular element therein for connecting at least two panels together; and

wherein the joinery assembly further includes at least one joint closure for covering the spaced-apart opening and joinery assembly between the struts of connected panels.

Please add claims 34-45 as follows:

34. A modular construction system comprising:

an inventory of panel shapes that are derived from a common format, wherein the inventory of panel shapes includes ^{obvious} fifty-nine different panel shapes, wherein the panel shapes form panels having a plurality of sides and a plurality of corners;

a means for constructing a structure using panels from the inventory of panel shapes, wherein a plurality of panels are connected at a plurality of dihedral angles with respect to each other about a given axis centered between and parallel to the panel sides, and about given vertices where the axes between the panel sides being joined intersect;

wherein the plurality of panels include struts attached along the panel sides forming a framework around the perimeter of the panels to carry the weight of the panels and allow for connection to other panels; and

wherein the struts of the panels being joined are offset from, parallel to, and rotational about the axis centered between the panel sides.

35. The modular construction system of claim 34, further comprising at least two connection mechanisms for joining a plurality of panels about any given axis or vertice, wherein the connection mechanisms include a centerline element, at least two bridge elements, a plurality of brace elements, a plurality of anchorage elements and a plurality of joint closure elements.

36. The modular construction system of claim 35, wherein the centerline element includes a tubular segment having an opening extending therethrough with a longitudinal axis coincident with the axis centered between the panels being joined, wherein the opening facilitates the passage of utility lines through the centerline element.

37. The modular construction system of claim 35, wherein the bridge elements include webs and brackets that connect the struts of at least two adjoining panels to the centerline element.

38. The modular construction system of claim 37, wherein the webs and brackets create a spaced-apart opening between the struts of adjoining panels for the insertion of utility lines throughout the structure.

39. The modular construction system of claim 39, wherein the webs include at least one tab extension attached to the struts at the corners of the panels and at least one collar having an opening extending therethrough that is rotationally attached to the centerline element, wherein one end of the tab extension is attached to the strut and the other end of the tab extension is attached to the collar.

40. The modular construction system of claim 39, wherein the joint closure elements cover the spaced-apart opening between the struts of adjoining panels at the corners thereof.

41. The modular construction system of claim 39, wherein the brackets are attached to the struts along the sides of the panels and include an opening extending therethrough that is rotationally attached to the centerline element.